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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,658	03/09/2001	Nobuhiko Iida	Q63538	4104

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SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

PHU, SANH D

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 03/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,658

Applicant(s)

IIDA, NOBUHIKO

Examiner

Sanh D Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Information Disclosure Statement

1. The IDS filed 5/28/2002 has been considered and recorded in the file.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

In section [0041], the specification recites the description:

"The controller 70 memorizes a predetermined speech level threshold value, and compares **the electric field strength of the pilot signals of the downstream radio speech paths of the radio speech paths 11, 21, and 31** with the predetermined speech level threshold value, only when a radio speech path whose FER exceeded the frame quality threshold value exists in the radio speech paths 11, 21, and 31 based on the compared results at the radio speech path controller 71, in order to secure the speech quality of the downstream radio speech paths, and decides that the radio speech path whose FER is the worst is as the hand-off by the jointed compared results of the compared result of the FERs at the radio speech path controller 71 and the compared result of the electric field strength at the controller 70, and informs the control signal controller 72 of the decided result".

It is unclear how or in which way "the controller 70" can obtain "the electric field strength of the pilot signals of the downstream radio speech paths of the radio speech paths 11, 21 and 31", or from where the information of this electrical strength is generated and provided to the controller 70. See figure 1, it appears that the information of this electrical strength should be

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generated and provided from the MOBILE TELECOMMUNICATION 1; however, see figures 1 and figure 2, the RADIO BASE STATION CONTROLLER 100 has no means for receiving the information of this electrical strength for the CONTROLLER 70.

Claim 1 recites the limitation:

"a judging means, which detects some radio speech paths whose FERs of said upstream radio speech paths exceeded a predetermined frame quality threshold value based on monitored results at said monitoring means, in order to judge that speech quality of several upstream radio speech paths in all said plural radio speech paths using between said one of said plural mobile telecommunication terminals and said plural radio base stations can be sufficiently secured, and removes said upstream radio speech paths, whose FERs exceeded said frame quality threshold value, from said plural radio speech paths using between said one of said plural mobile telecommunication terminals and said plural radio base stations, and selects the best frames from said upstream radio speech paths removed radio speech paths exceeded said frame quality threshold value, and judges whether said upstream radio speech paths of said one of said plural mobile telecommunication terminals can be secured or not by using the measured result of said FERs from said selected best frames"

This limitation is not disclosed in the specification.

Claim 4 recites the limitation:

"said radio base station controller, further comprising: a radio speech path dropping means for dropping said radio speech paths whose FERs exceeded said frame quality threshold value as a hand-off based on said information of said radio speech paths whose FERs exceeded said frame quality threshold value stored in said designated table in said storing means, by judging that said downstream radio speech path of said one of said plural mobile telecommunication terminals can be secured even if said radio speech paths whose FERs exceeded said frame quality threshold value are removed, at the case that at least one radio speech path whose electric field strength of said pilot signal exceeded said predetermined speech level threshold value exists in said remaining downstream radio speech paths, excluded said radio speech paths whose FERs exceeded said frame quality threshold value, using between said one of said plural mobile telecommunication terminals and said plural radio base stations"

The specification does not disclose how or in which way "said radio base station controller" can obtain "electric field strength of said pilot signal".

Claim 5 recites the limitation:

"a controller that memorizes a predetermined speech level threshold value, and compares **electric field strength of pilot signals of downstream radio speech paths** of said plural radio speech paths with said predetermined speech level threshold value in order to secure speech quality"

The specification does not disclose how or in which way the "controller" can obtain "electric field strength of said pilot signals".

Claim 6 recites the limitation:

"measuring electric field strength of pilot signals transmitted from said plural radio base stations only when a radio speech path whose FER exceeded said frame quality threshold value exists".

The specification does not disclose how or in which way the "electric field strength of said pilot signals" are obtained for further being processed by the step of "measuring electric field strength of pilot signals".

Claim Rejections – 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

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would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al (6,337,984).

As per claim 1, see figures 3-6 and col. 5, line 40 to col. 9, line 33, Hong et al discloses a system comprising a handoff control system (see col. 5, lines 63-64) wherein the handoff control system comprises:

a monitoring means, as claimed, wherein the monitoring means monitors FER of stream paths between base stations and a mobile station (see figure 3);

a judging means, as claimed, wherein the judging means detects paths of an active base station whose FER's exceeded a threshold (T_QUALITY), removing these paths for detecting, and selecting and detecting paths for a new selected active base station, and monitoring FER of down stream paths of new selected active base station, in judging whether the communication paths of the mobile station is secured not (see figure 3).

Hong et al does not disclose that stream paths between base stations and a mobile station are upstream paths. He discloses that these paths are downstream paths.

However, measuring FER of communications between two remote stations over a communication channel can be obtained either at one of the two stations in order to determine the quality of the communication channel is well-known in the art, and the examiner takes Official Notice. Therefore, for an alternative and equivalent way, it would have been obvious for a person in the art when building or carrying out Hong et al invention could obtain FER of upstream paths or down stream paths between a base station and the mobile station for the handoff control system.

As per claim 2, Hong et al system inherently has a storing means for storing paths for monitoring FER results in judging whether the communication paths of the mobile station is secured not (see figure 3).

As per claim 3, Hong et al discloses a level confirming means, as claimed wherein the level confirming means confirms speech levels of streams paths

(P2, P3) of two candidate base stations wherein the stored paths for monitoring FERs are updated (see figure 3).

As per claim 4, Hong et al discloses a dropping means, as claimed, wherein the dropping means drops paths whose FERs exceeded the threshold based on the signal strengths of the active base station (P1) and candidate base stations (P2, P3) in judging whether the communication paths of the mobile station is secured not during the handoff procedure (see figures 4, 5 and 6).

Allowable Subject Matter

5. Claims 5 and 6 are allowed.

Regarding to claim 5, none of the prior art of record teaches a radio base station controller, comprising:

a radio speech path controller that memorizes a predetermined frame quality threshold value for securing speech quality and monitors FERs of respective upstream radio speech paths of plural radio speech paths through said signal transmitter and receiver in a predetermined cycle, and compares said monitored FERs with said frame quality threshold value, and outputs said compared results, in order to control said plural radio speech paths at the case

that said plural radio speech paths are established between one of said plural mobile telecommunication terminal in a service area overlapped said service areas and said plural radio base stations managing the respective service areas that are bases of said overlapped service area;

a controller that memorizes a predetermined speech level threshold value, and compares electric field strength of pilot signals of downstream radio speech paths of said plural radio speech paths with said predetermined speech level threshold value in order to secure speech quality, only when radio speech paths whose FERs exceeded said frame quality threshold value exist in said plural radio speech paths at said compared results at said radio speech path controller, and decides that a radio speech path whose FER is the worst is as a hand-off by the jointed compared results of said compared result of said FERs at said radio speech path controller and said compared result of said electric field strength at said controller, and outputs said decided result;

radio speech path information storage that memorizes the using state of said plural radio speech paths in a designated table in a time series by the control of said controller; and

a control signal controller that transmits a control signal signifying the hand-off to radio base stations having a radio speech path that is decided to be hand-off at said controller through said signal transmitter and receiver.

Regarding to claim 6, none of the prior art teaches a radio base station controller, comprising the steps of at the case that plural radio speech paths are established between one of said plural mobile telecommunication terminal in a service area overlapped said service areas and said plural radio base stations managing the respective service areas that are bases of said overlapped service area,

monitoring upstream speech quality of upstream radio speech paths of plural radio speech paths for said one of said plural mobile telecommunication terminals by their FERs in a predetermined cycle;

comparing said monitored FERs with a predetermined frame quality threshold value;

selecting the best frames of upstream radio speech paths whose FERs did not exceed said predetermined frame quality threshold value when said FERs of

some of said upstream radio speech paths exceeded said predetermined frame quality threshold value;

judging that radio speech path quality of said upstream radio speech paths of said one of said plural mobile telecommunication terminals can be secured by the measured result of said FERs from said selected frames;

storing information of said radio speech paths whose FERs exceeded said frame quality threshold value in a designated table;

monitoring downstream speech levels of downstream radio speech paths of said plural radio speech paths excluded said radio speech paths whose FERs exceeded said frame quality threshold value for said one of said plural mobile telecommunication terminals by measuring electric field strength of pilot signals transmitted from said plural radio base stations only when a radio speech path whose FER exceeded said frame quality threshold value exists;

comparing said electric field strength of said pilot signals of remaining plural radio speech paths excluded said radio speech paths whose FERs

exceeded said frame quality threshold value with a predetermined speech level threshold value;

judging that the downstream radio speech level of said one of said plural mobile telecommunication terminals can be secured even if said radio speech paths whose FERs exceeded said frame quality threshold value are removed, at the case that at least one radio speech path whose electric field strength of said pilot signal exceeded said predetermined speech level threshold value exists in said downstream radio speech paths; and

dropping said radio speech paths who's FERs exceeded said frame quality threshold value as said hand-off, based on said information stored in said designated table.

Conclusion

5. References Matusевич et al (6,535,733), Ramakrishna et al (6,233,455), Behzad (6,603,971) and Bengtsson et al (6,347,217) are additionally cited because they are pertinent to the claimed invention.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanh D Phu whose telephone number is (703) 305-8635. The examiner can normally be reached on 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-301-6739. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-8635.

Sanh D. Phu
Examiner
Art Unit 2682

SP


LEE NGUYEN
PRIMARY EXAMINER